



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,988	04/19/2004	Ken Shiozaki	USUI-13W	3495
1218	7590	07/30/2009		
CASELLA & HESPOS 274 MADISON AVENUE NEW YORK, NY 10016			EXAMINER BERTHEAUD, PETER JOHN	
			ART UNIT	PAPER NUMBER
			3746	
			MAIL DATE	DELIVERY MODE
			07/30/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/826,988

Applicant(s)

SHIOZAKI ET AL.

Examiner

PETER J. BERTHEAUD

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 September 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/19/2009 has been entered. It should be noted that claims 1 and 3 have been amended and claim 5 is new.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin 4,556,138 in view of Shiozaki 6,550,596 (Pub. 6/10/2002 US 2002/0003075), in further view of Watanabe 6,247,567, and still in further view of Creger 5,467,854.

Martin discloses a control method of an external control system fan clutch wherein the interior of a sealing housing 2, 2' supported through a bearing on a rotating shaft 4, 17 body fixedly attaching a drive disk 6 to itself and a cover attached to this case is partitioned by a partition plate 8 into an oil reservoir chamber 9 and a torque

transmission chamber 7 for internally mounting said drive disk 6 by a partition plate 8; and a valve member 11 comprising a spring material and having a magnetic property and being arranged within the oil reservoir chamber 9 for closing an oil circulating flow passage 10 formed in the partition plate 8 between the torque transmission chamber 7 and the oil reservoir chamber 9; an electromagnet 20 is supported by said rotating shaft body through the bearing on the oil reservoir chamber 9 side of said sealing housing 2, 2', and a mechanism for controlling the opening and closing of the oil circulating flow passage 10, the method comprising: biasing the valve member 11 against the partition plate 8 for keeping the oil circulating flow passage in a normally closed condition while keeping the valve member 11 substantially free of magnetic forces acting thereon (see col. 2, lines 31-33); detecting a temperature of cooling liquid of a radiator, and potentially other parameters (see col. 2, lines 61-68), for determining a desired rotational speed of the sealing housing 2, 2'; selectively operating the electromagnet 20 in response to signals indicating a need for an increased rotational speed of the sealing housing for attracting the valve member 11 and deflecting the valve member away from the partition plate 8 for opening the oil circulating flow passage 10 to permit a flow of oil into a torque transmission clearance between the drive disk 6 and the sealing housing 2, 2' to increase an effective contact area of the oil in the torque transmission clearance (see col. 3, lines 12-18); and selectively turning off the electromagnet 20 in response to signals indicative of a requirement for a slower rotational speed of the sealing housing so that the valve member 11 is substantially free of magnetic forces and is biased into the normally closed condition by the spring material (see col. 3, lines 18-21) for

controlling rotating torque transmission from a drive side to a driven side by increasing and decreasing an effective contact area of the oil in the torque transmission clearance. Martin further teaches magnetic materials 21 arranged between said electromagnet 20 and the valve member 11, and is constructed by assembling the magnetic material into the sealing housing 2, 2' so as to transmit a magnetic flux of the electromagnet to the valve member through the magnetic material (see col. 3, lines 1-12). In addition, Martin teaches the claimed invention except for the magnetic material arranged between said electromagnet and the valve member being a ring shape. At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to have the magnetic material of Martin (21) made into the ring shape of a ring, because Applicant has not disclosed that this arrangement, provides an advantage, is used for a particular purpose, or solves a stated problem. It has been held that mere rearrangement of the essential working parts of a device involves only routine skill in the art. In re Kuhle, 526 F.2d 553, 188 USPQ 7 (CCPA 1975) (see MPEP 2144.04, VI. C. - Rearrangement of Parts). However, Martin does not teach the specific operating parameter limitations taught by Shiozaki, Watanabe, and Creger.

Shiozaki teaches a control method of an external control system fan clutch wherein the interior of a sealing housing 2 constructed by a case of a non-magnetic material supported through a bearing 13 on a rotating shaft body 1 fixedly attaching a drive disk 3 to its tip and a cover 2-2 attached to this case is partitioned by a partition plate 4 into an oil reservoir chamber 5 and a torque transmission chamber 6 for internally mounting said drive disk 3 by a partition plate 4; a dam 15 is arranged in one

portion of the inner circumferential wall face of the cover opposed to the outer circumferential wall portion of the drive disk 3 for collecting and reservoiring oil at the rotating time, and a valve member 9 comprising a spring material and having a magnetic property and being arranged within the oil reservoir chamber, for closing an oil circulating flow passage formed in the partition plate 4 between the torque transmission chamber 6 and the oil reservoir chamber 5 is connected to the dam 15 and is arranged within the oil reservoir chamber 5; an electromagnet 11 is supported by said rotating shaft body 1 through the bearing 14 on the oil reservoir chamber 5 side of said sealing housing, and a mechanism for controlling the opening and closing of the oil circulating flow passage, the method comprising: biasing the valve member 9 against the partition plate 4 for keeping the oil circulating flow passage in a normally closed condition; selectively operating the electromagnet 11; and controlling rotating torque transmission from a drive side to a driven side by increasing and decreasing an effective contact area of the oil in a torque transmission clearance portion formed by the drive side and the driven side (see col. 2, lines 16-27); wherein the opening and closing of said valve member could be controlled on the basis of a plurality of signals including a fan rotating speed (see col. 9, lines 63-37), an engine rotating speed, the pressure of a compressor of an air conditioner, and a turning-on or turning-off signal of the air conditioner (see col. 1, lines 6-11, and 47-53). Although not explicitly stated, it is obvious that the apparatus of Shiozaki is capable of performing a method wherein an upper limit rotating speed is set to an optimum fan rotating speed required from the engine side (see col. 10, lines 14-23); a fan rotating speed control signal is temporarily stopped on the basis of the

differential speeds between an engine rotating speed, the fan rotating speed and said optimum fan rotating speed; the fan rotating speed control signal is temporarily stopped on the basis of an engine rotating acceleration or an accelerator (throttle) position acceleration; or a limit is given to a changing rate of the optimum fan rotating speed on the basis of the changing rate of said optimum fan rotating speed.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have modified the device of Martin by detecting and using multiple parameters in order to determine a desired rotational speed as well as by implementing a method where an upper limit rotating speed is set to an optimum fan rotating speed, as taught by Shiozaki, thereby allowing the fan to cool the engine more efficiently and effectively.

Watanabe teaches a fan clutch assembly comprising a computer for controlling the rotational speed of the fan in response to, among others, the temperature of the engine cooling water (radiator), the vehicle speed, and the rotational speed of the fan (see col. 3, lines 25-34).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have modified the device of Martin by detecting and using multiple parameters in order to determine a desired rotational speed of the fan, as taught by Watanabe, thereby allowing the fan to cool the engine more efficiently and effectively.

Martin in view of Shiozaki and Watanabe discloses the invention as discussed above. However, Martin in view of Shiozaki and Watanabe does not teach the specific operating parameter limitations taught by Creger

Creger teaches a clutch assembly comprising a controller for controlling gear selection of a power train in response to, among others, a transmission oil temperature.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have modified the device of Martin in view of Shiozaki and Watanabe by detecting and using a transmission oil temperature as a determining parameter, as taught by Creger, in order to properly select a desired rotational speed of the fan, thereby allowing the fan to cool the engine more efficiently and effectively.

Response to Arguments

4. Applicant's arguments filed 5/19/2009 have been fully considered but they are not persuasive.
5. In response to Applicant's arguments regarding the combination of Martin in view of Shiozaki: Examiner would first like to point out that Martin is primarily responsible for teaching the valve member and electromagnet assembly, whereas Shiozaki, and now Watanabe and Creger, are responsible for showing that it is well known in the art to use the various control parameters claimed for adjusting the fan speed. Therefore, the fact that Shiozaki's valve and magnet assembly works in a somewhat reverse manner is irrelevant because this portion of the assembly is taught Martin.

Applicant goes on to state that both Shiozaki and Martin rely entirely upon one controlling factor, as opposed to the present invention, which relies on the various parameters claimed in claims 1 and 5. Examiner points to Shiozaki col. 1, lines 6-11 and 47-53 and col. 9, lines 63-67. This disclosure makes it obvious that at the very least the

fan rotational speed could be determined based on a fan rotating speed, an engine rotating speed, the pressure of a compressor of an air conditioner, and a turning-on or turning-off signal of the air conditioner. The other operating parameters in question are now taught by Watanabe and Creger. Thus, claims 1-5 are now rejected under 35 U.S.C. 103(a) as being unpatentable over Martin in view of Shiozaki, in further view of Watanabe, and still in further view of Creger.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PETER J. BERTHEAUD whose telephone number is (571)272-3476. The examiner can normally be reached on M-F 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on (571) 272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devon C Kramer/
Supervisory Patent Examiner, Art
Unit 3746

PJB
/Peter J Bertheaud/
Examiner, Art Unit 3746